

ARTICLE REVIEW

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Introduction

Bioterrorism tends to become one of the main terrorist threats nowadays. Its impact is especially strong not only due to its direct implications but also due to a high level of uncertainty. People realize that biological weapons are very dangerous, but they cannot determine the optimal strategy in dealing with such threats especially during the first stages of incidents. The current paper examines the article "The Psychological Effects of Biological Agents as Terrorist Weapons" written by Ranghieri, Guidotti and Rossodivita in 2007. The main ideas of the authors will be summarized and analyzed from the perspective of national security. Although biological threats are significant and have long-term implications, timely and effective counter-measures may minimize these risks, and the main attention should be devoted to the first responders.

Analysis

The authors demonstrate that biological agents are especially dangerous both for victims and survivors due to their unpredictable outcomes (p. 137). Bioterrorism negatively affects physical and mental health of survivors, and special methods and techniques should be introduced for minimizing the ultimate negative effects. The authors claim that psychological consequences of bioterrorism are not properly investigated. Therefore, the current methods are not highly effective. ASD and PTSD should be properly addressed by psychologists and psychiatrists.

Bioterrorism is considered one of the most complex types of terrorism as both the first responders and survivors are seriously affected. In the beginning, all groups of the population experience

the immediate negative effect of an attack. However, it may be comparatively insignificant in comparison with the long-term effect. It is problematic to determine it in advance as further investigation and elaboration may be needed. As the ultimate effects are uncertain, emergency managers should concentrate on neutralizing or minimizing the panic state within the population.

The authors of the article claim that the current level of problems is very high, and these problems cannot be resolved at any particular level of response management. Therefore, they advocate a close cooperation between various experts including chemists, psychologists, and psychiatrists (p. 133). The corresponding importance of different experts may vary in accordance with the changes in the emergency situation. In order to reach the long-term positive results, experts should address stressors and improve the psychological state of all affected parties. Children may need special care due to their additional needs and psychological perception of the situation. Meeting and new educational programs may be needed in this situation.

It is necessary to explain the basic concepts in this context. The first concept is capability. It may be used from two different perspectives. On the one hand, it may refer to the potential harm that may be caused by the given biological agents while, on the other hand, it may refer to response capabilities of medical structures. In relation to the latter interpretation, the authors state that hospitals should increase the amount of available knowledge in this field in order to adequately address this problem (p. 137).

Intent may be determined as purposeful behavior of terrorists aimed at inflicting harm on other members of society. The existence of

intent is one of the main characteristics of terrorist attacks as it clearly differentiates them from environmental incidents. As all actions of terrorists are purposeful, it makes their behavior even more dangerous and subject to harsher punishment. Vulnerability may be defined as a capability of being hurt by a biological weapon. The authors demonstrate that at the present moment, the existing social systems are inadequately protected. They claim that it is important to better evaluate biological risks and take corresponding counter-actions. The majority of threats may be effectively prevented, and vulnerability may be efficiently reduced.

Consequence may be defined as ultimate results of terrorist attacks. One of the main attacks in the sphere of homeland security is to minimize the negative consequences of bioterrorism. All available resources should be effectively balanced by the government and non-government organizations. Then, they should allocate available resources in the most efficient way. All these concepts are closely interrelated and should be examined in a complex way. Authors propose the implementation of a complex training program that may prevent the majority of bio-treats and address the rest of them more efficiently.

The authors demonstrate that chemical warfare agents are often used during the main military conflicts. In particular, they were used during World War I and the first Gulf War (p. 134). These threats continue to exist nowadays. Moreover, their potential harm tends to increase dramatically. Therefore, preventive measures should become more widespread and complex. In the 21st century, a large number of individuals and organizations have at least a theoretical capability to produce and deliver a biological weapon effectively. However, the main threats are associated with major international

terrorist organizations. As the ultimate consequences are difficult to estimate at the moment of attacks, panic may occur within the population. Moreover, terrorists may use panic as one of their objectives in order to maximize the overall effect.

Although it is difficult to determine the capability of various terrorist organizations in advance, it is reasonable to develop a system of indicators that may assess the expected level of risks. The allocation of resources should be proportional to the distribution of risks and threats. The desire for terrorists to use a biological agent again depends on the previous experience of its use. If bio-threats helped to reach the previous terrorist objectives, it is more likely that they will be used in the future. However, if these attacks were effectively prevented, and the initiator of aggression is determined; both private individuals and organizations will not have an opportunity to commit any new crimes or criminal attempts. Thus, the effective system of prevention and control may address both objective and subjective aspects of potential biological terrorist attacks. Objective aspects include the existence of physical and technological opportunities for criminal activities. Subjective aspects refer to criminals' desire and intent of reaching their objectives in a criminal way.

The authors show that a large number of biological agents may allow terrorists reaching their objectives. The intended effects may be reached in various ways, and biological agents are one of the most attractive options for criminals. Bioterrorism is highly dangerous due to its psychological influence on the public and substantial long-term consequences. The public does not comprehend all relevant factors and may act irrationally. Under such conditions, criminals receive additional opportunities for implementing their criminal plans. For example, it is possible to

organize several criminal attacks (either through biological agents or in other forms) when the social system is disorganized.

The main long-term negative consequences primarily relate to psychological effects on the population. People are strongly affected by biological agents and experience difficulties in maintaining their previous lifestyle. In particular, they do not experience the necessary level of security from their subjective perspective even if all formal requirements are fulfilled. The authors of the article believe that the first responders are subjected to the main threats as they face the maximum risks and uncertainty. Consequently, their responsive strategies may not be optimal that will lead to additional problems.

Thus, one of the main purposes of homeland security is the implementation of such a system that will not allow bioterrorists reaching their objectives and obtaining the desired results. On the one hand, the system of prevention may be introduced. It may include the analysis and assessment of potential risks, identification of criminals, and the optimal allocation of scarce resources. On the other hand, it is reasonable to develop timely responsive strategies if the actual biological agents were not successfully prevented. The developed responsive strategies should be adequate to the level of threats. In any case, the needs of the first responders should be satisfied at the very beginning because their interests are hurt more seriously than others.

Conclusion

The article under consideration presents a number of negative consequences produced by the most widespread biological agents. The authors explain that a bioterrorism also leads to numerous psychological traumas that may be even more dangerous than direct negative effects. The issues of bioterrorism are especially relevant in the context of such concepts as capability, intent, vulnerability, and consequence. All of them are directly or indirectly addressed in the article. All these concepts are closely interrelated, and the optimal system of homeland security should address both objective and subjective aspects.

Nowadays, a large number of individuals and organizations are able to use a biological weapon effectively for attaining their objectives. In particular, it may be used in combination with other weapons and terrorist methods. Bio-terrorists may use a biological weapon several times if corresponding conditions exist. If their previous experience is successful, the use of such weapon is more plausible. At the same time, these risks may be effectively minimized if corresponding preventive measures are taken. It is necessary to address the existing risks both from the position of their prevention and minimization. Although bio-threats are dangerous for all groups of society, the first respondents experience the maximum level of threats. Therefore, their needs should be primarily addressed, and effective forms of rehabilitation should be introduced.

Reference

Ranghieri, M. C., Guidotti, M., & Rossodivita, A. (2007). The psychological effects of biological agents as terrorist weapons. *Strengthening National Public Health Preparedness and Response to Chemical, Biological, and Radiological Agent Threats*, 133-138.